Recent Temperature and Precipitation, Snowpack and Drought Conditions For Colorado

Including the Latest Climate and Drought Outlooks

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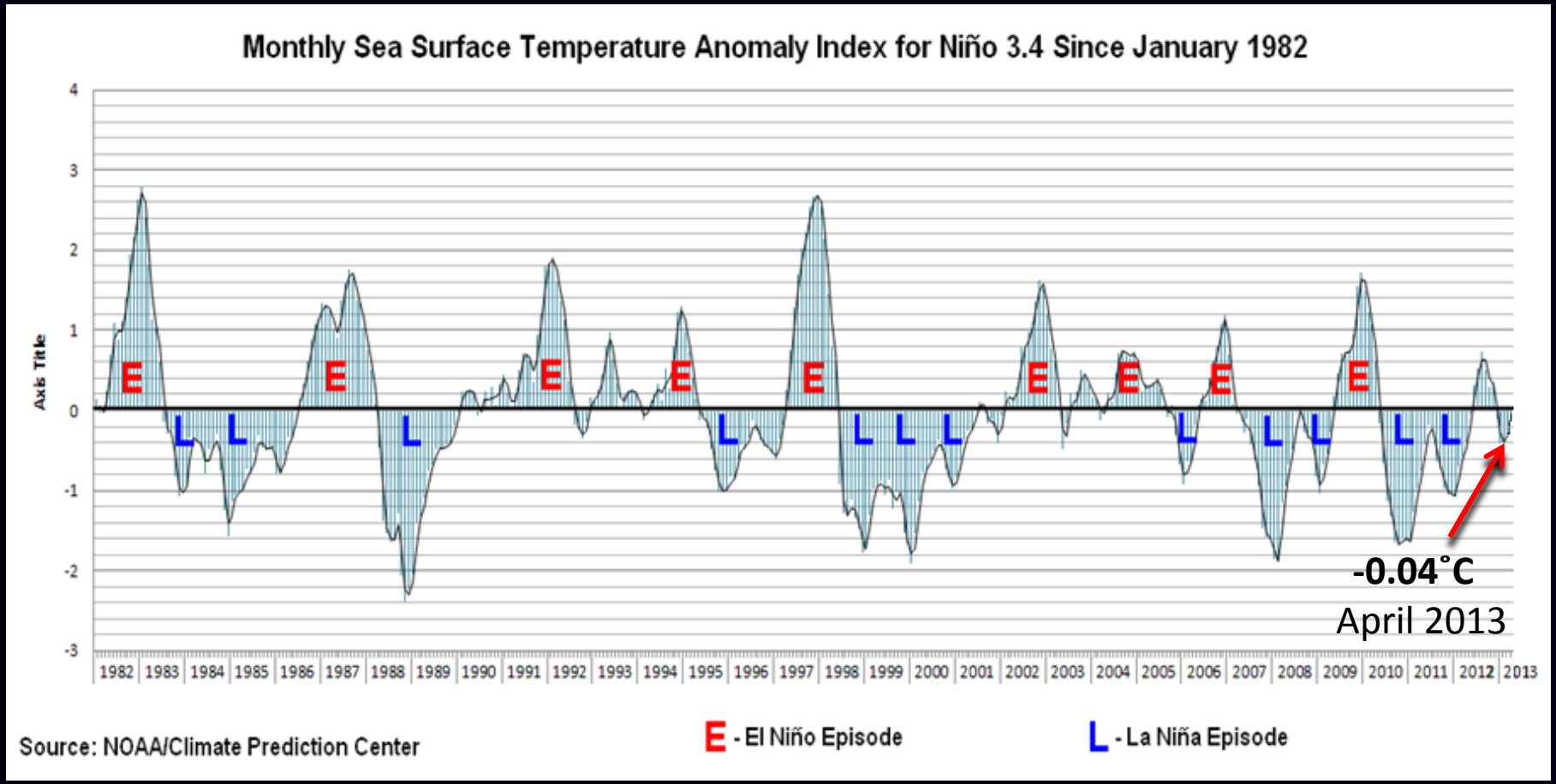
National Weather Service
Boulder, Colorado
May 10, 2013

Neutral El Niño/Southern Oscillation (ENSO) Conditions Continue



The monthly SST anomaly index for ENSO 3.4 as of April 2013 remains in negative territory (-0.04C) for the fifth month in a row. However, this does not indicate a La Niña as it does not meet the necessary 5 consecutive month threshold of -0.45 and lower. Therefore, neutral or non-ENSO conditions continue.

The Oceanic Niño Index (ONI) for Niño 3.4

Year	DJF	JFM	FMA	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDJ
2001	-0.7	-0.6	-0.5	-0.4	-0.2	-0.1	0.0	0.0	-0.1	-0.2	-0.3	-0.3
2002	-0.2	0.0	0.1	0.3	0.5	0.7	0.8	0.8	0.9	1.2	1.3	1.3
2003	1.1	0.8	0.4	0.0	-0.2	-0.1	0.2	0.4	0.4	0.4	0.4	0.3
2004	0.3	0.2	0.1	0.1	0.2	0.3	0.5	0.7	0.8	0.7	0.7	0.7
2005	0.6	0.4	0.3	0.3	0.3	0.3	0.2	0.1	0.0	-0.2	-0.5	-0.8
2006	-0.9	-0.7	-0.5	-0.3	0.0	0.1	0.2	0.3	0.5	0.8	1.0	1.0
2007	0.7	0.3	-0.1	-0.2	-0.3	-0.3	-0.4	-0.6	-0.8	-1.1	-1.2	-1.4
2008	-1.5	-1.5	-1.2	-0.9	-0.7	-0.5	-0.3	-0.2	-0.1	-0.2	-0.5	-0.7
2009	-0.8	-0.7	-0.5	-0.2	0.2	0.4	0.5	0.6	0.8	1.1	1.4	1.6
2010	1.6	1.3	1.0	0.6	0.1	-0.4	-0.9	-1.2	-1.4	-1.5	-1.5	-1.5
2011	-1.4	-1.2	-0.9	-0.6	-0.3	-0.2	-0.2	-0.4	-0.6	-0.8	-1.0	-1.0
2012	-0.9	-0.6	-0.5	-0.3	-0.2	0.0	0.1	0.4	0.5	0.6	0.2	-0.3
2013	-0.6	**-0.7**										

NOAA/CPC Last Update 04-04-13

The ONI during the latest three month climate season (JFM) was -0.7. Though less than -0.45, it does not meet the criteria for a La Niña (as defined in lower right.)

El Niño : ONI higher than +0.45
Neutral ENSO : ONI of -0.45 to +0.45
La Niña: ONI lower than -0.45

The ONI is based on sea surface temperature (SST) departures from average in the Niño 3.4 region of the eastern tropical Pacific Ocean. It is the principal measure used by NOAA's Climate Prediction Center (CPC) for monitoring, assessing and predicting El Niño/Southern Oscillation (ENSO.)

ONI is defined as the three-month running mean SST departures in the Niño 3.4 region of the Pacific.

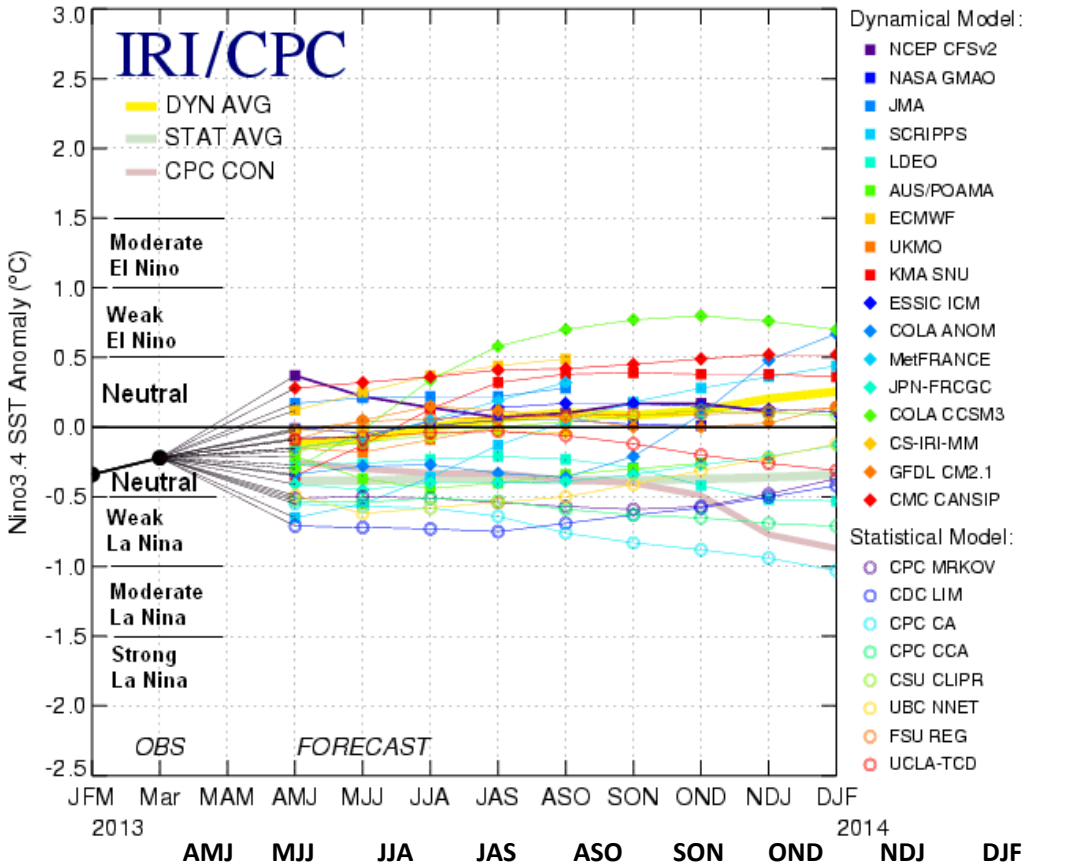
ONI is used to place current ENSO and non-ENSO events into a historical perspective.

CPC's operational definitions of El Niño and La Niña are keyed to the ONI index.

For historical purposes, warm and cold phases of ENSO (the red and blue colored numbers) are defined when the threshold is met for a minimum of 5 consecutive over-lapping 3-month seasons.

Baker - National Weather Service Boulder, Colorado

The Forecast for ENSO



	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDJ	DJF
Average, dynamical models	*-0.1*	*-0.1*	*0*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	*0.3*
Average, statistical models	*-0.4*	*-0.4*	*-0.3*	*-0.3*	*-0.3*	*-0.3*	*-0.3*	*-0.3*	*-0.2*
Average, all models	-0.2	-0.2	-0.1	-0.1	0	-0.1	0	0	0

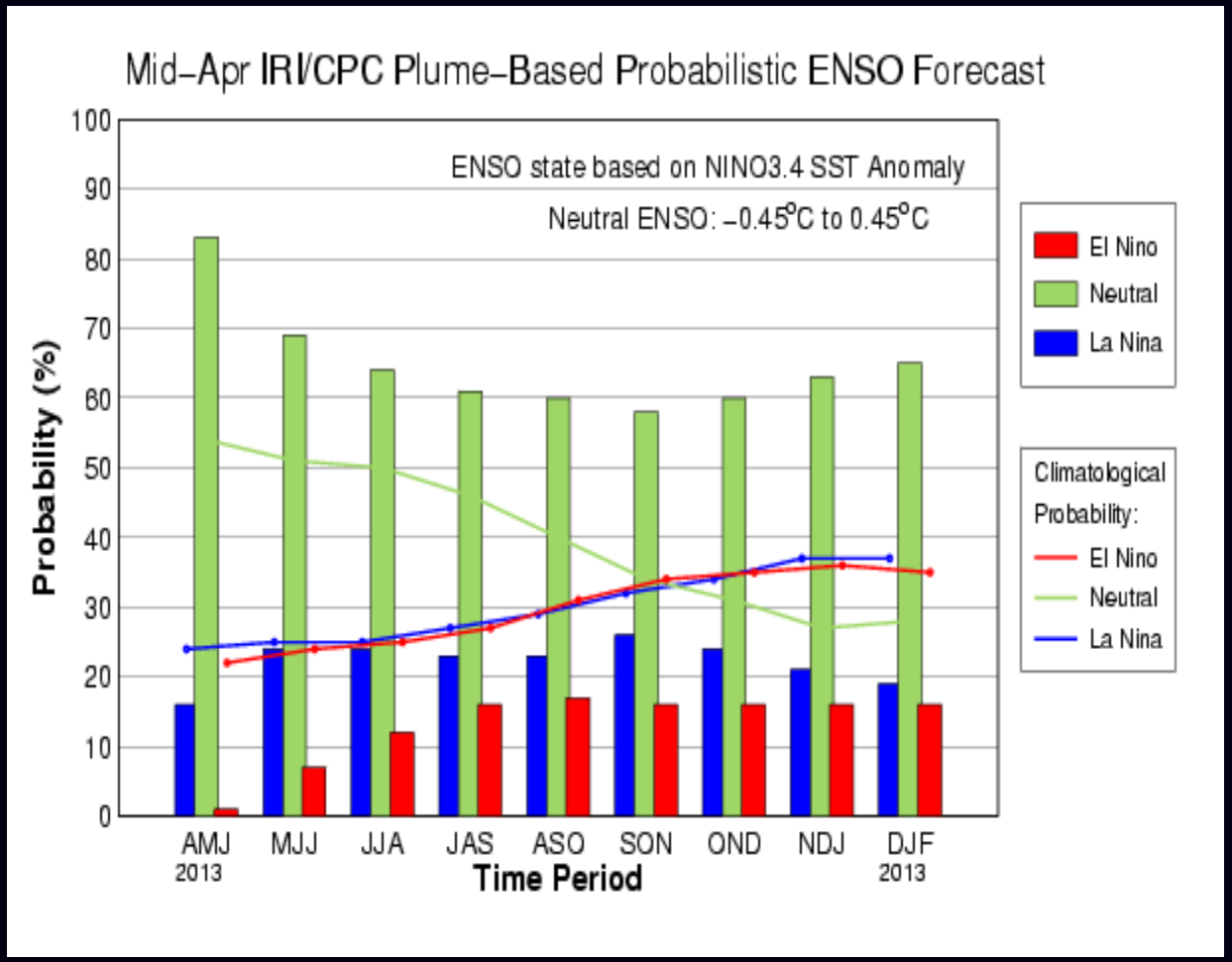
Source: International Research Institute for Climate and Society (IRI) – Apr 18 2013

The table in the lower left contains the cumulative average of sea surface temperature anomalies (SSTa) forecasted by 17 dynamical models and 8 statistical models, and a cumulative average for all 25 models for overlapping 3-month climate seasons through the December-February (DJF) 2013-2014.

An SST anomaly greater than -0.45˚C and lower than +0.45˚C indicates the presence of neutral ENSO conditions in the Pacific.

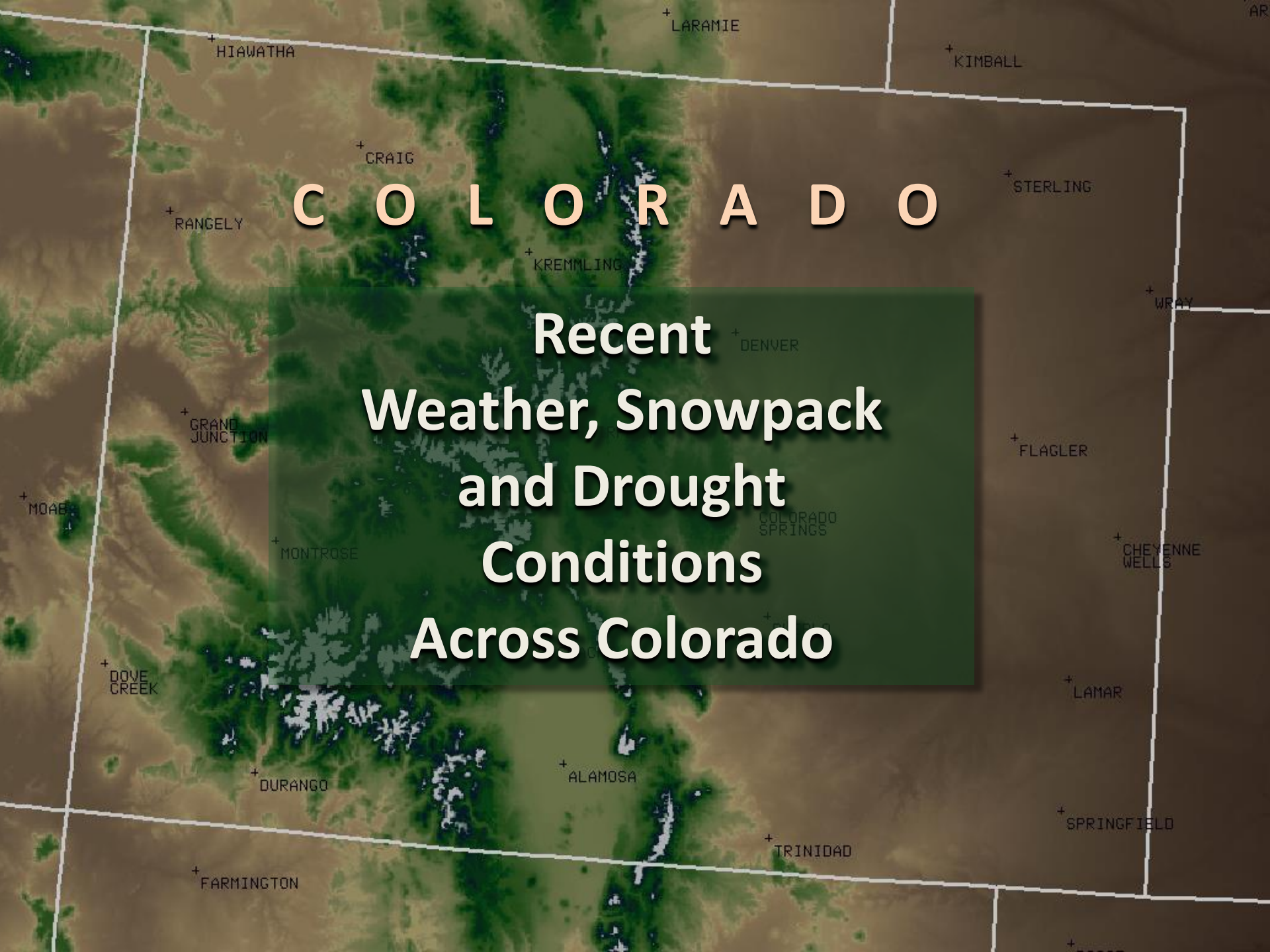
A large majority of the dynamical and statistical climate models continue to predict non-ENSO or neutral conditions through the summer of 2013. Beyond that though, members begin to diverge with the dynamic model mean continuing to indicate neutral conditions through autumn of 2013, while the mean of the statistical models trends cooler towards La Niña conditions.

Probabilistic ENSO Forecast for Nine Overlapping 3-Month Climate Seasons Through December-February of 2013-2014

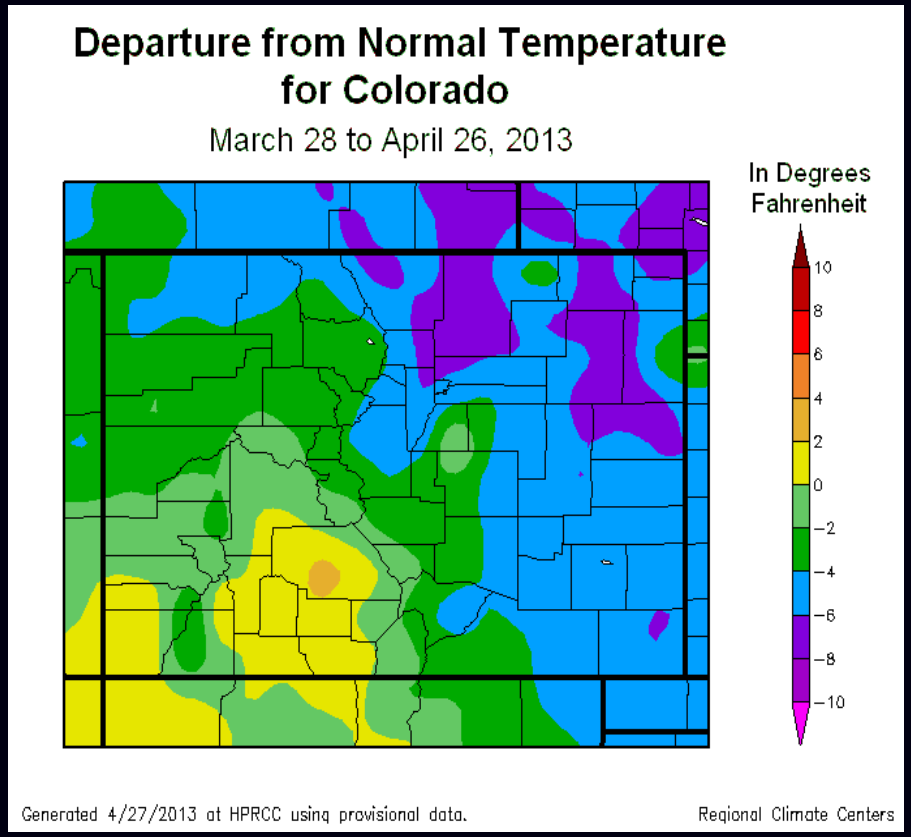


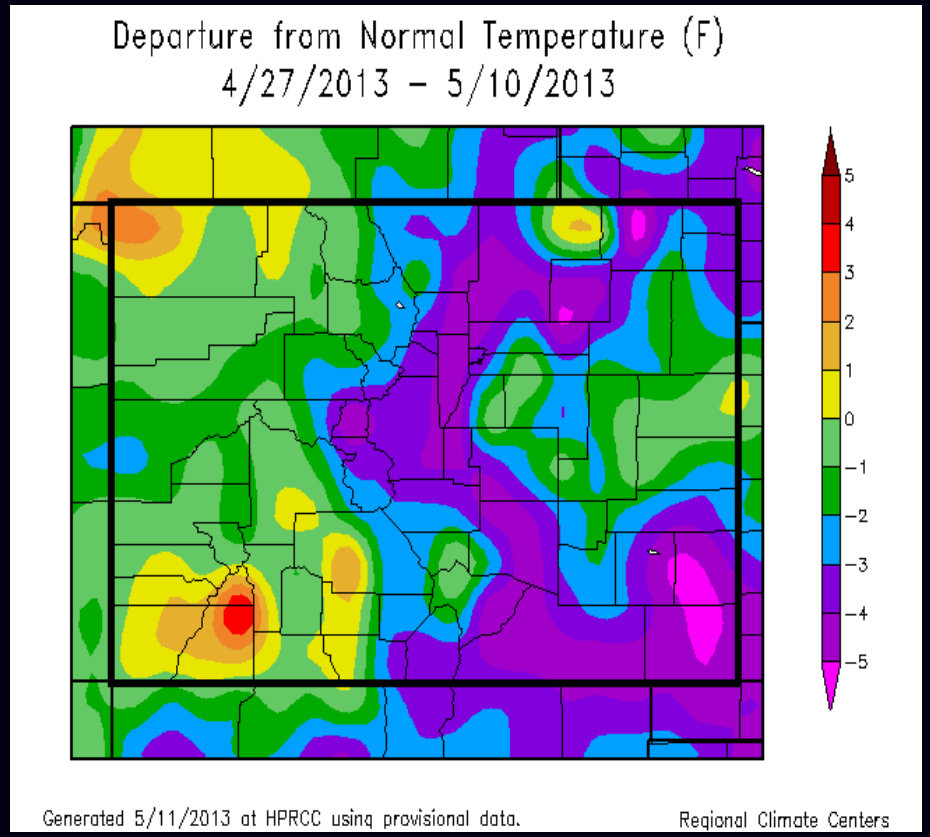
The bar chart shows the probability of El Niño, neutral and La Niña conditions for three-month climate seasons beginning with the April-June (AMJ) season and ending with December-February (DJF) 2013-2014.

Neutral conditions have the highest probability of occurrence during the 9 overlapping seasons. However, the probability for La Niña conditions increases during the fall.


LARAMIE
HIAWATHA
KIMBALL
CRAIG
STERLING
C O L O R A D O
RANGELY
KREMMLING
WRAY
DENVER
GRAND JUNCTION
FLAGLER
MOAB
COLORADO SPRINGS
MONTROSE
CHEYENNE WELLS
DOVE CREEK
LAMAR
DURANGO
ALAMOSA
SPRINGFIELD
TRINIDAD
FARMINGTON
Recent
Weather, Snowpack
and Drought
Conditions
Across Colorado

Compare…
Temperature Departures for Colorado

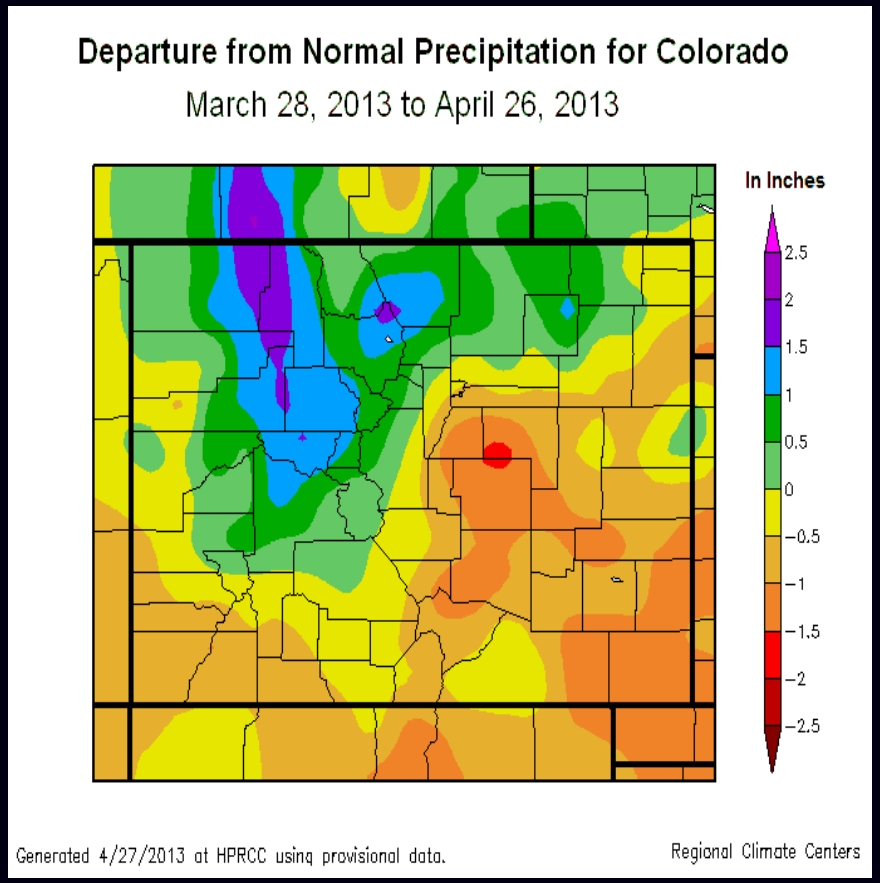


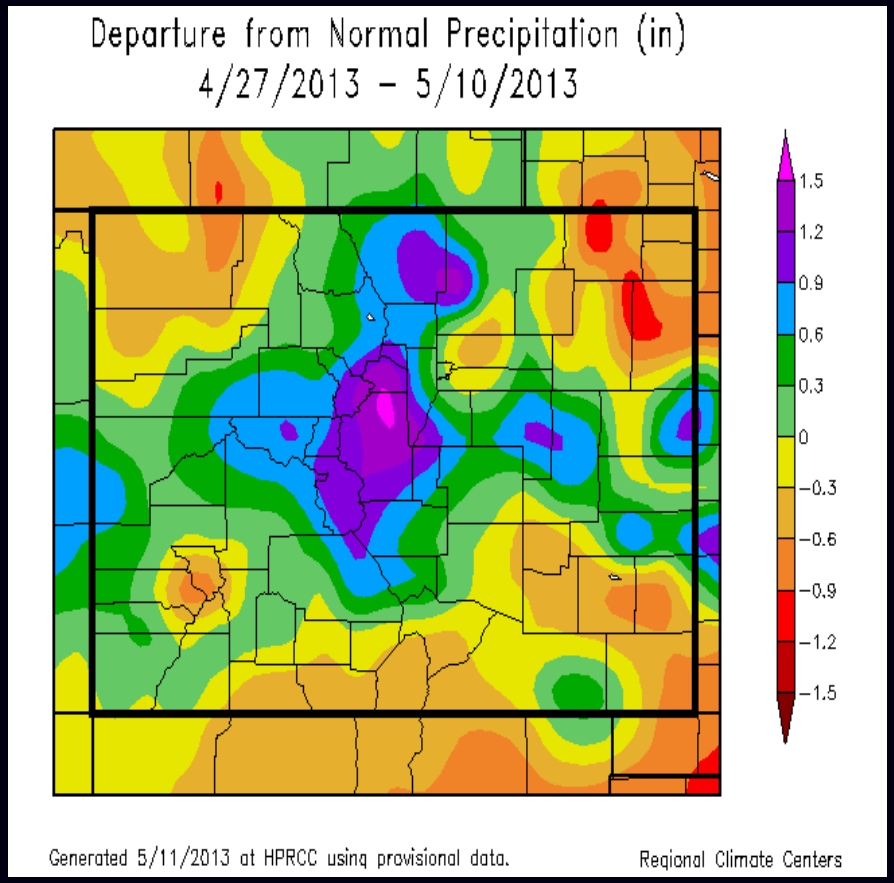


30 Day Period Ending April 26, 2013

14 Day Period Ending May 10, 2013

Compare…
Departure from Normal Precipitation

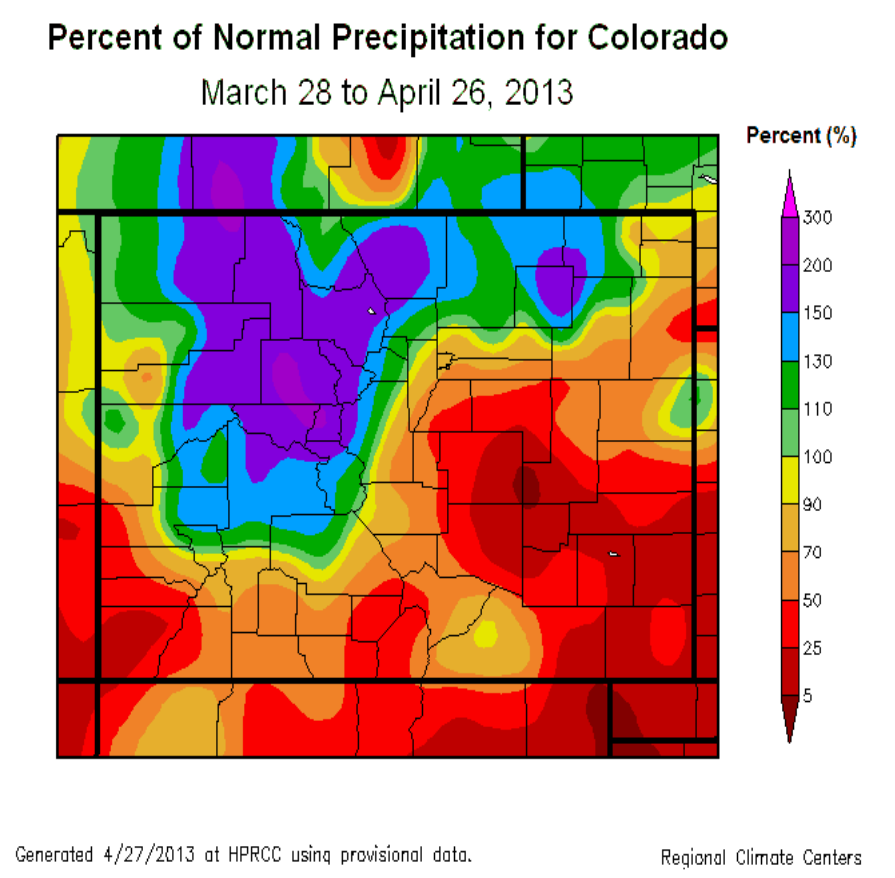


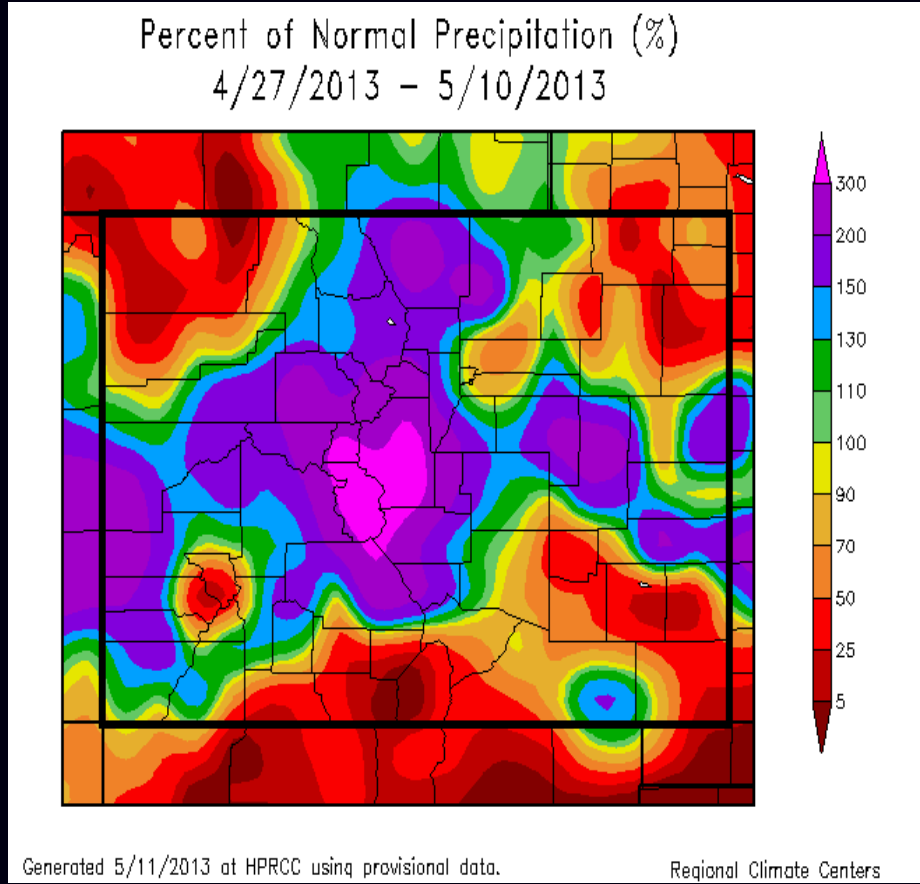


30 Day Period Ending April 26, 2013

14 Day Period Ending May10, 2013

Compare…
Percent of Normal Precipitation

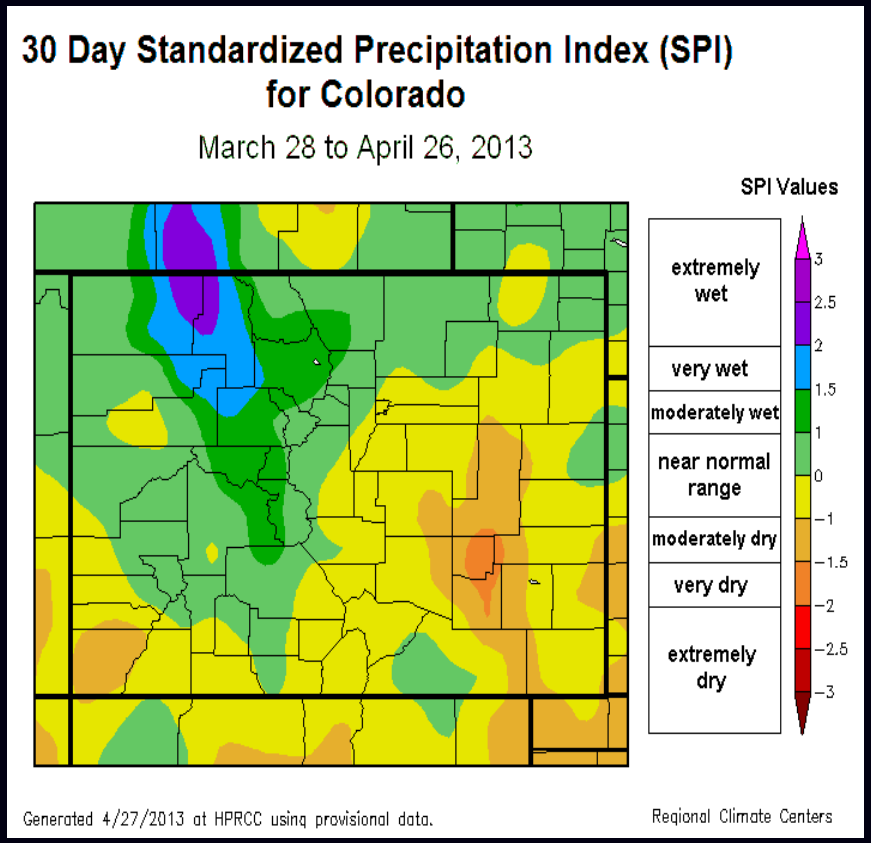


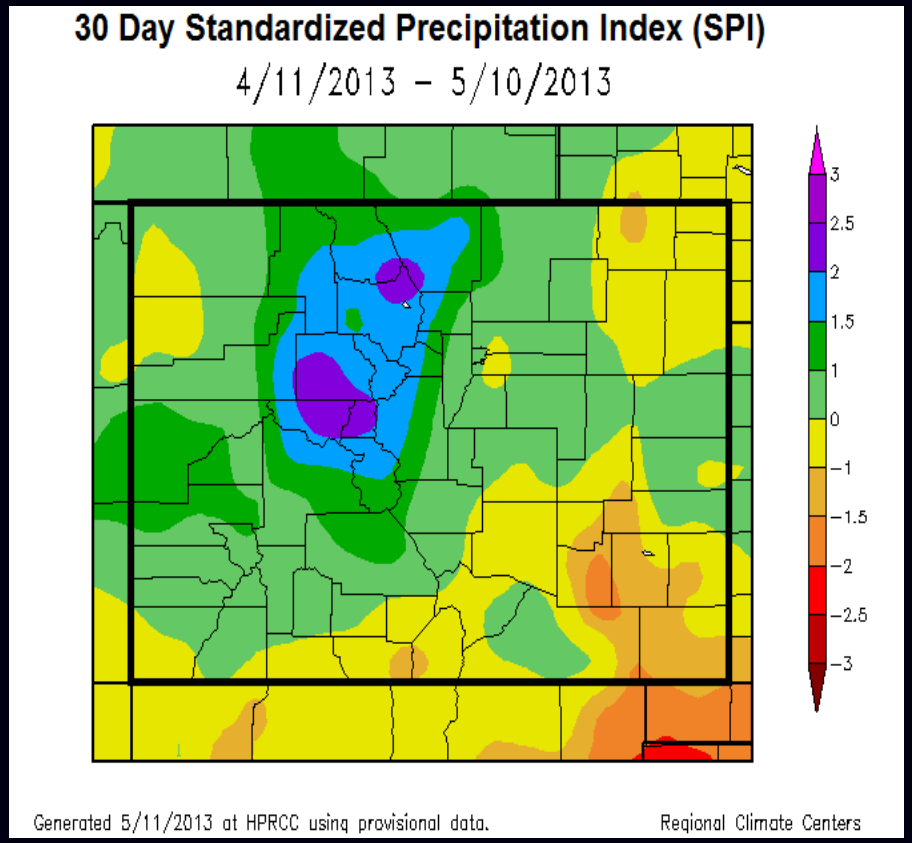


30 Day Period Ending April 26, 2013

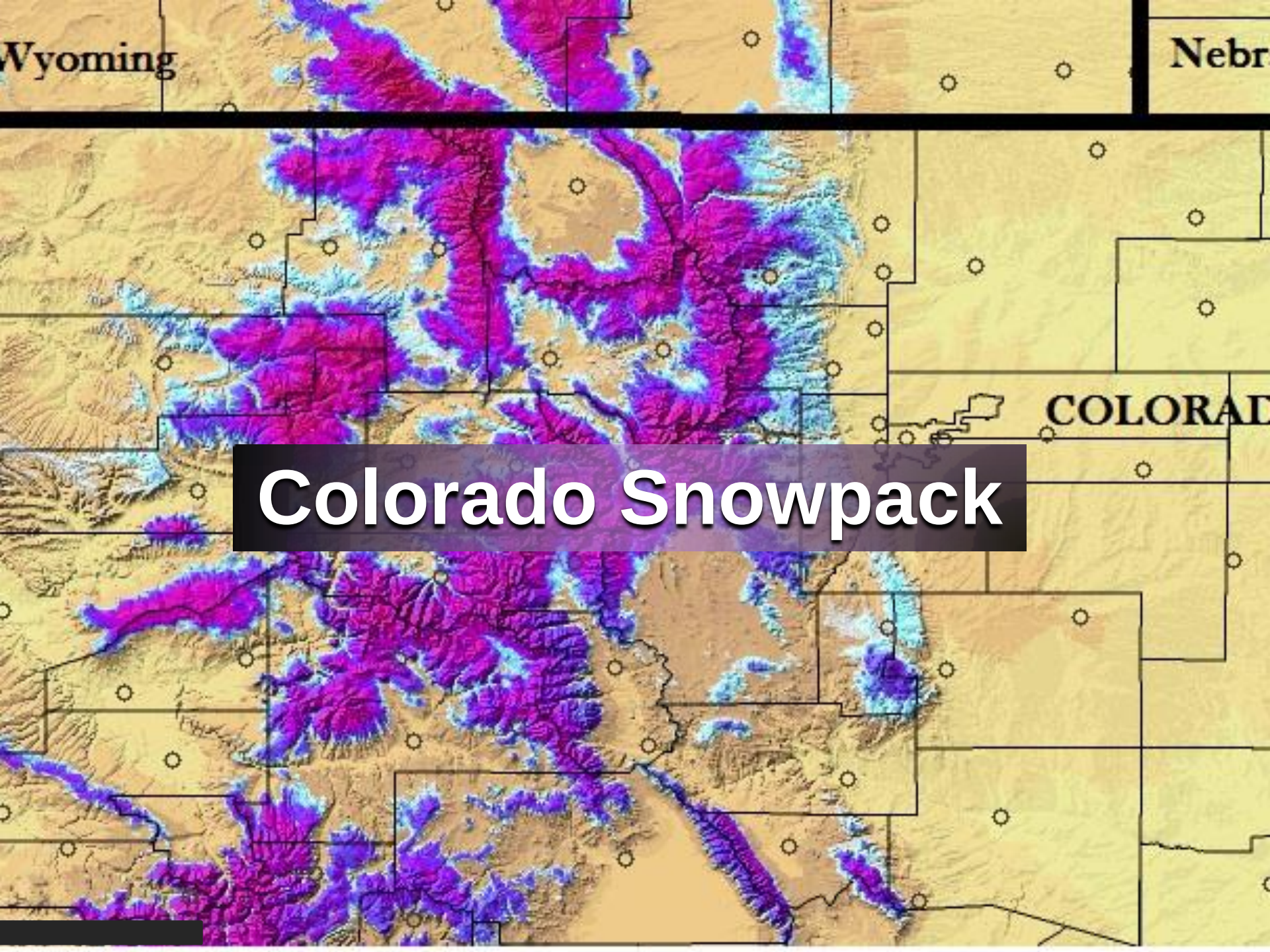
14 Day Period Ending May10, 2013

Compare…
Standardized Precipitation Index

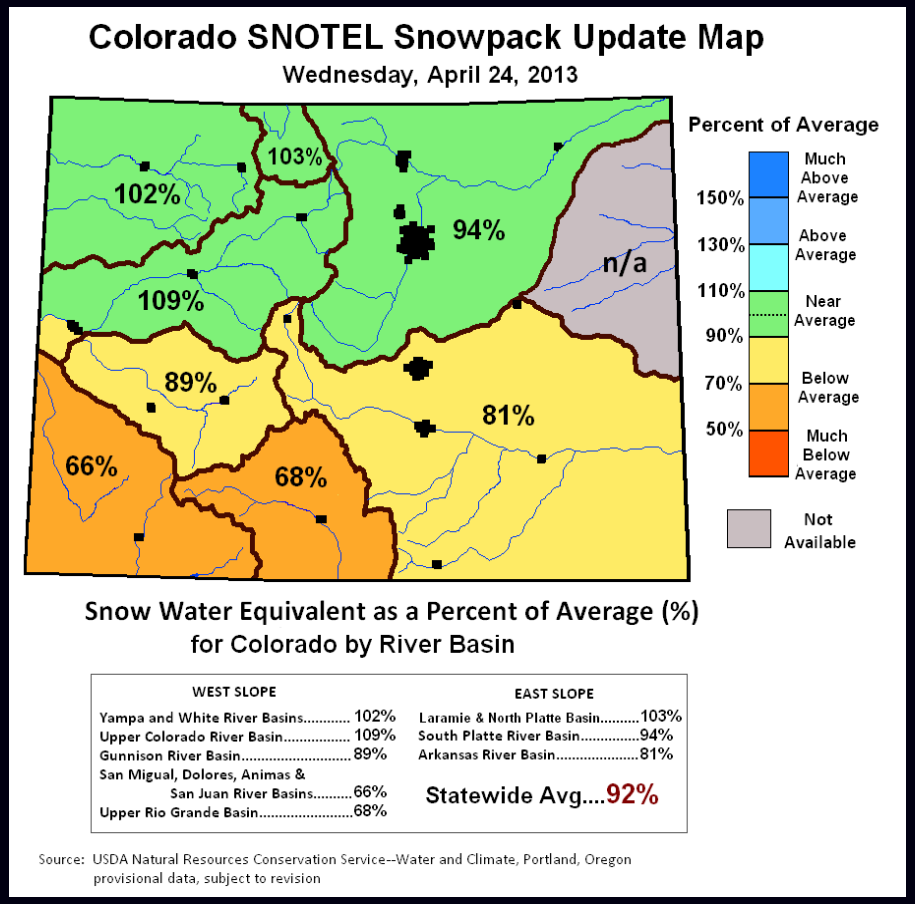




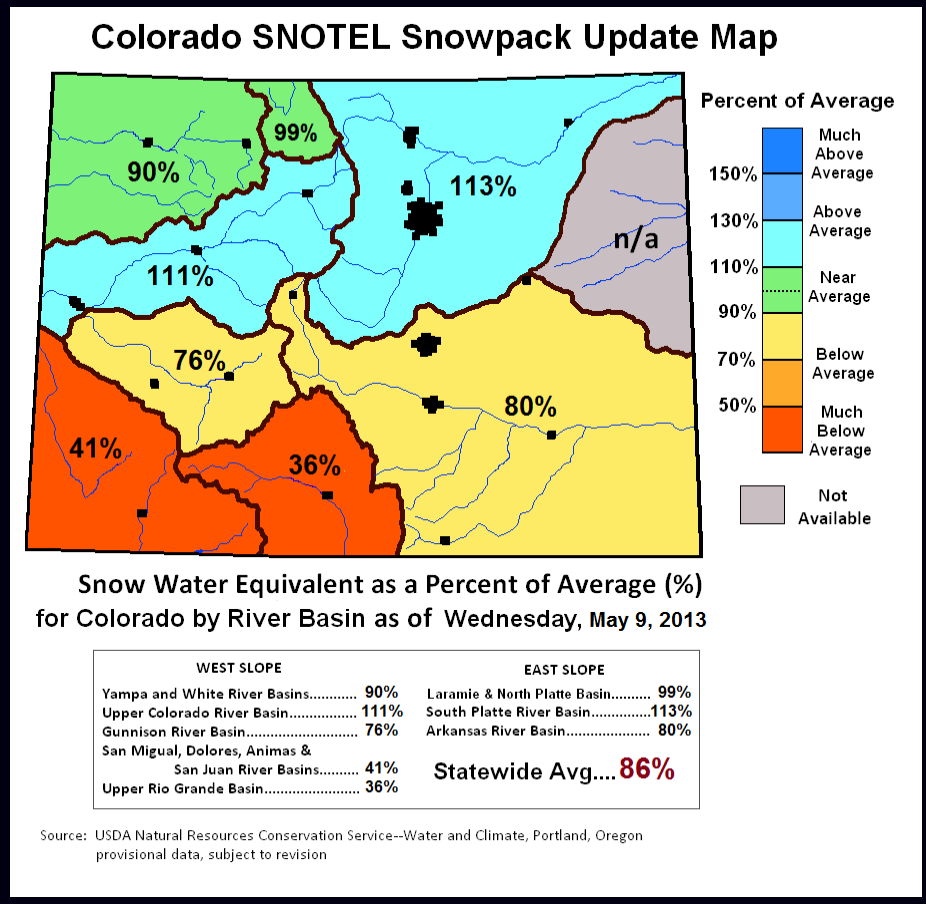
The SPI was developed to monitor potential short term agricultural and long-term hydrological drought conditions. The SPI is a probability index that considers only precipitation.


Wyoming
Nebr
COLORAD
Colorado Snowpack

River Basin Average Snow Pack In Colorado as of April 24th and May 9th, 2013



As of April 24, 2013



As of May 9, 2013

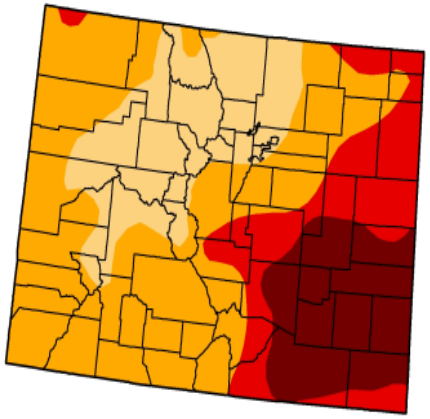
Drought Conditions In Colorado

As of April 23 ,2013

U.S. Drought Monitor
Colorado
April 23, 2013
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	100.00	78.08	32.19	16.24
Last Week (04/16/2013 map)	0.00	100.00	100.00	84.78	38.37	13.63
3 Months Ago (01/22/2013 map)	0.00	100.00	100.00	100.00	58.64	13.50
Start of Calendar Year (01/01/2013 map)	0.00	100.00	100.00	95.06	53.47	13.48
Start of Water Year (09/25/2012 map)	0.00	100.00	100.00	100.00	61.75	16.89
One Year Ago (04/17/2012 map)	5.17	94.83	59.85	25.93	0.00	0.00



Intensity:
- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://droughtmonitor.unl.edu

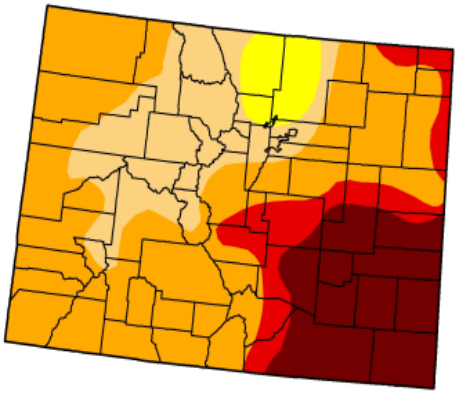
Released Thursday, April 25, 2013
Eric Luebehusen, U.S. Department of Agriculture

As of May 7 ,2013

U.S. Drought Monitor
Colorado
May 7, 2013
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	95.49	75.99	26.97	17.93
Last Week (04/30/2013 map)	0.00	100.00	100.00	78.08	26.98	17.51
3 Months Ago (02/05/2013 map)	0.00	100.00	100.00	100.00	54.29	24.92
Start of Calendar Year (01/01/2013 map)	0.00	100.00	100.00	95.06	53.47	13.48
Start of Water Year (09/25/2012 map)	0.00	100.00	100.00	100.00	61.75	16.89
One Year Ago (05/01/2012 map)	5.17	94.83	61.66	29.40	0.00	0.00



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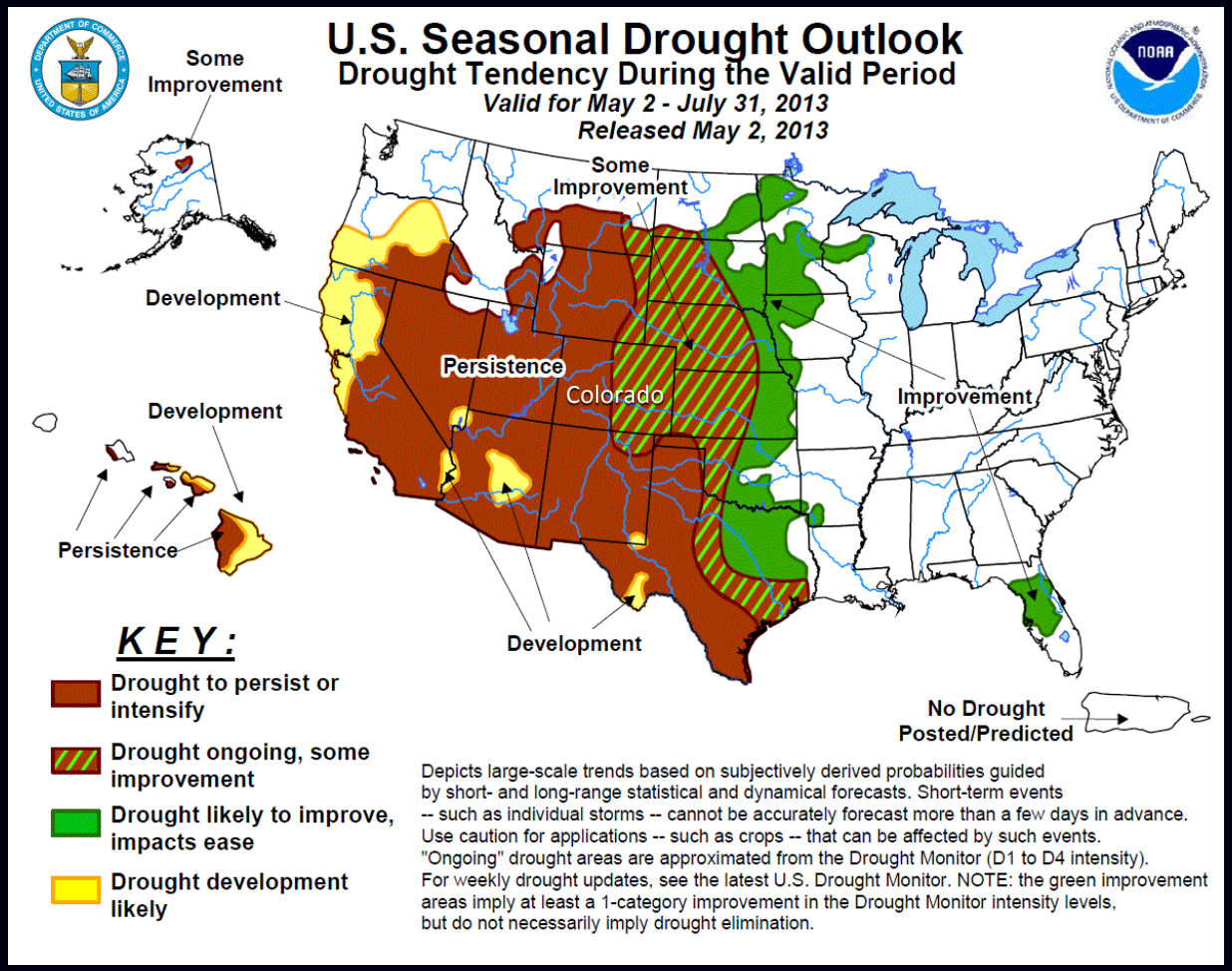
http://droughtmonitor.unl.edu

Released Thursday, May 9, 2013
National Drought Mitigation Center,



The latest seasonal drought outlook issued by NOAA's Climate Prediction Center valid for the period May 2 to July 31, 2013 calls for drought conditions to improve some across eastern Colorado, and persist for the remainder of the state.

For an outlook for the entire U.S., go to www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.gif.

May-June-July
2013
Temperature and Precipitation Outlooks for Colorado
Issued by the
Climate Prediction Center

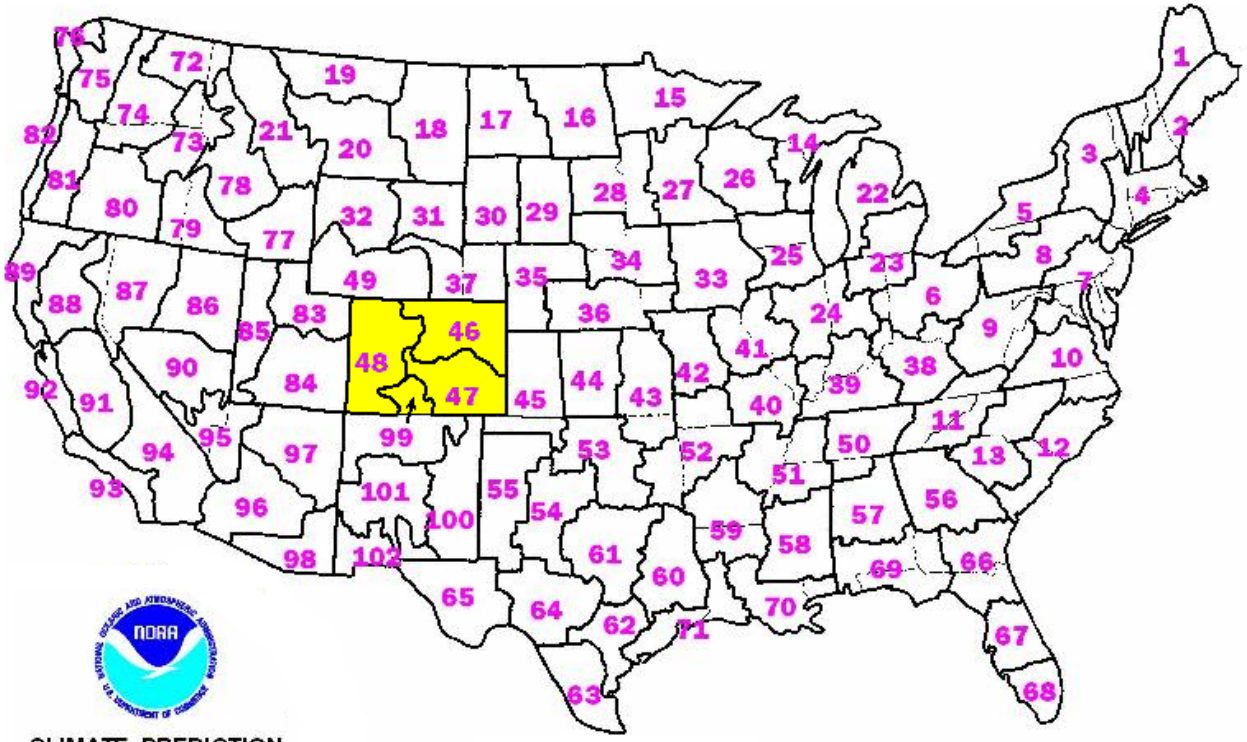
Baker - National Weather Service Boulder, Colorado

Climate Prediction Center Seasonal Outlooks

The National Weather Service Seasonal Climate Outlooks predict the probability of conditions being among the warmest/coldest or wettest/driest terciles of years compared to the period of record 1981-2010.

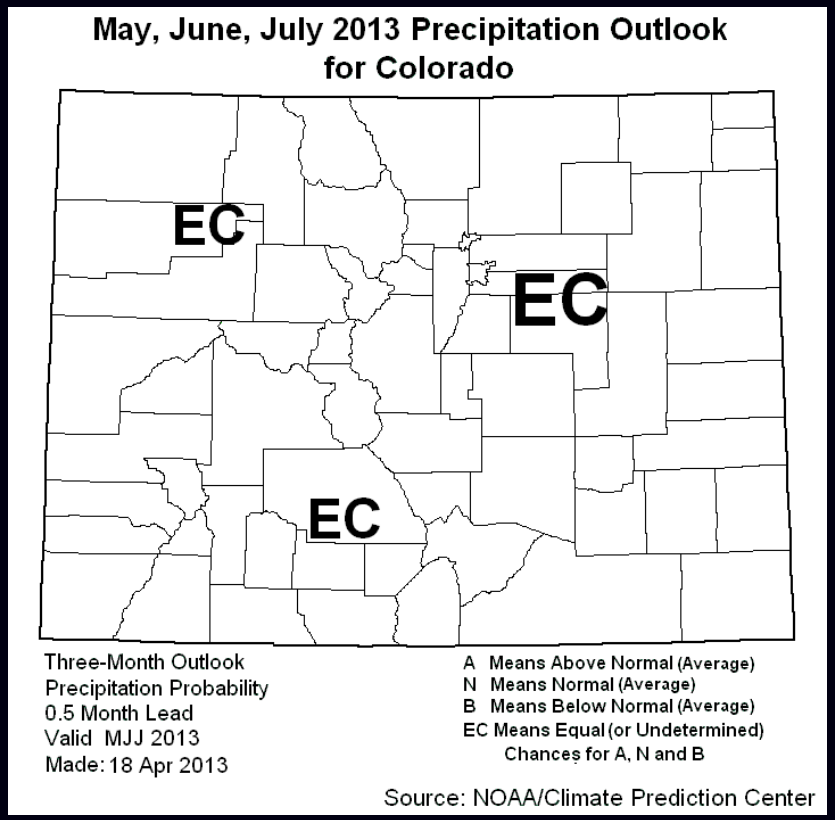
The outlooks indicate probability of being in three specific categories in reference to the 30-year climatology from 1981-2010. They are above, below and average.

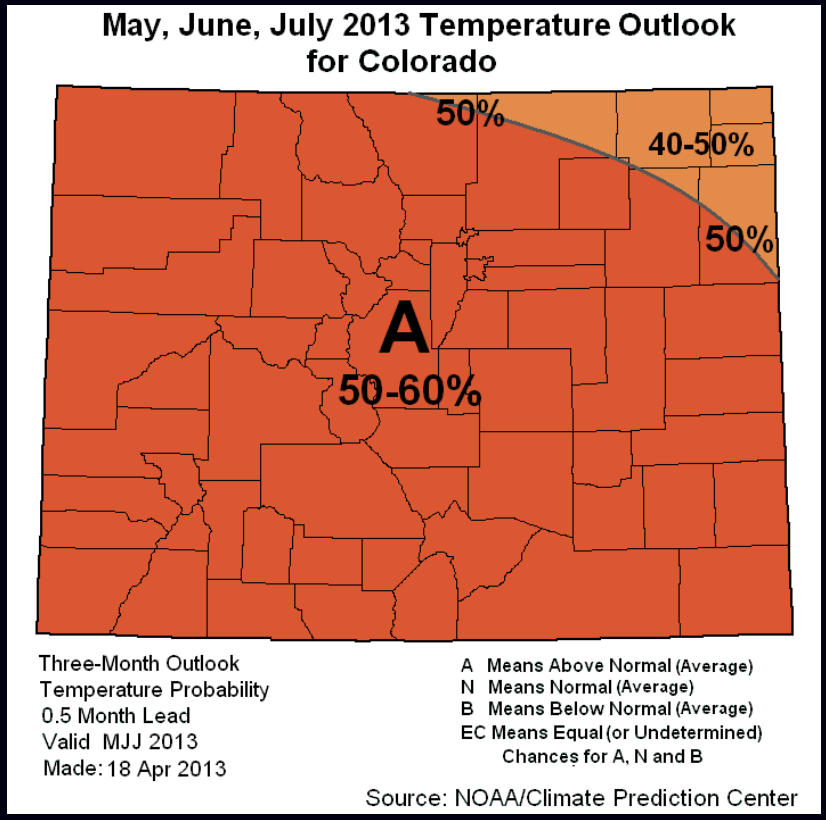
Remember, Climate Predicition Center (CPC) outlooks are made at the scale of the climate megadividions (see the map below).



CLIMATE PREDICTION CENTER

Three Month Climate Outlook for Colorado From the Climate Prediction Center





CPC is calling for an equal (or undeterminable) chance for above, near and below of precipitation across Colorado during May, June and July.

CPC is calling for a 40 to 50 percent chance of above average temperatures in the far northeast corner of Colorado during the 3-month climate season May through July, and an even greater likelihood (50 to 60 percent chance) for warmer than average temperatures for the remainder of the state.